6 Summary

Investigations on the Occlusive Means in the Caudal Genital Tract of the Mare

This study deals with the occlusive means in the caudal genital tract in 5 mares. Since there was no measuring device available, to reliably describe the pressure in the whole caudal genital tract, the first aim of the study was, to develop an adequate "pressure-gauge". After successful development of such a measuring device, the second goal was to identify the "seal" to the outside world, i. e. the area with the highest occlusive pressure. Therefore pressure measurement was performed in three well defined areas. These were the vestibulum vaginae, the hymenal ring and the area of the caudal vagina. Measurement was done on 3 consecutive ovulatory oestrous cycles, starting at the 2nd day post ovulationem, continuing on 5th, 12th, 15th, and from the 17th day on a daily interval until next ovulation. To investigate the influence of hormonal status and constitutional conditions of the external genitalia on the internal pressure values, before measuring, the length of the following distances were determined: Anus-dorsal commissure, anus-ventral commissure, dorsal commissure-pelvic brim and dorsal commissure-ventral commissure. Vulva´s angle of declination was also measured, using a protractor. After pressure measurement, the mares were examined transrectally and by ultrasonography to verify the state of the sexual cycle. Finally a blood sample was taken, to check the concentration of estrogen-17-β (E2) and progesterone (P4) in serum by RIA.

Comparison of the values measured in the three locations resulted in the hymenal ring as the area with the highest occlusive pressure. The hymenal ring is not only the place of the most effective reduction in bacteria all over the genital tract in mares (SCHUBERT 1994), it is also the place of the highest occlusive pressure in 4 of 5 investigated mares. Accepting the hymenal ring being the most important occlusive seal to the outside world in the genital tract of the mare, Caslick´s vulvoplasty seems to be no longer an adequate method in the therapy of vulval incompetence/pneumovagina. The author advises the method published by HERFEN and BOSTEDT (1998). It seems to reestablish physiological conditions in the occlusion of the genital tract of the mare by strengthening the hymenal ring area.